

WHAT IS CLAIMED IS:

1.-111. (Canceled)

112. (New) A chemical species comprising:

a substantially pure population of clusters of one of a molecule, a dimer, an atom and combinations thereof in combination with one of another molecule, dimer or atom, and any combination thereof,

wherein the clusters are detectable via peaks in mass spectrometry, and

wherein the peaks in the mass spectrometry are unidentifiable as any known conventional molecule and the clusters have no infrared signature for a gas or ultraviolet signature for a liquid or other signature for a solid under currently available detectors other than a corresponding signature of conventional molecules or dimers constituting the clusters.

113. (New) The chemical species of Claim 112, wherein the species is formed by subjecting a substance to any one of an external magnetic field, external electromagnetic field, microwave, pressure, friction, and any combination thereof.

114. (New) The chemical species of Claim 112, wherein the infrared signatures for gases or ultraviolet signatures for liquids or other signatures for solids due to conventional molecules and dimers constituting the clusters are altered because of the presence of peaks not existing in conventional signatures.

115. (New) The chemical species of Claim 112, wherein the average density is greater than that of the conventional molecules constituting said species and any of their combination under the same conditions of volume, pressure and temperature.

116. (New) The chemical species of Claim 112, wherein an excess energy content is released from a thermochemical reaction of said essentially pure population of clusters as compared to the energy released by thermochemical reaction of any conventional molecular constituent and any combinations thereof.

117. (New) The chemical species of Claim 116, wherein the excess energy content is due to a storage of energy in the structure of said clusters, said conventional molecules and said dimers constituting the clusters.

118. (New) The chemical species of Claim 112, wherein said peaks in the mass spectrometry change in time while keeping constant the density.

119. (New) The chemical species of Claim 112, wherein said essentially pure population of clusters has an excess adhesion to other substances when compared to the adhesion of any molecule constituting said clusters and any combinations thereof.

120. (New) The chemical species of Claim 112, wherein said essentially pure population of clusters has an excess penetration within other substances as compared to that of any conventional molecule constituting said clusters or that of any of combinations thereof.

121. (New) The chemical species of Claim 113, wherein said essentially pure population of clusters is formed from a substance having a single molecule.

122. (New) The chemical species of Claim 113, wherein said essentially pure population of clusters is formed from a substance having at least two different molecules.

123. (New) The chemical species of Claim 112, wherein said essentially pure population of clusters is a gas.

124. (New) The chemical species of Claim 112, wherein said essentially pure population of clusters is a liquid.

125. (New) The chemical species of Claim 112, wherein said essentially pure population of clusters is a solid.

126. (New) The chemical species of Claim 112, wherein said essentially pure population of clusters is a combustible fuel.

127. (New) The chemical species of Claim 126, wherein said combustible fuel is essentially constituted by hydrogen and its clusters.

128. (New) The chemical species of Claim 126, wherein said combustible fuel is essentially constituted by oxygen and its clusters.

129. (New) The chemical species of Claim 126, wherein said combustible fuel is essentially constituted by oxygen and hydrogen bonded into clusters.

130. (New) The chemical species of Claim 126, wherein carbon and its molecular composites have been essentially removed via chemical processes.

131. (New) The chemical species of Claim 126, wherein carbon and its molecular composites are removed from the combustion exhaust of said combustible fuel via chemical and physical processes.

132. (New) The chemical species of Claim 126, wherein said combustible fuel with is gasoline.

133. (New) The chemical species of Claim 126, wherein said combustible fuel is diesel fuel.

134. (New) The chemical species of Claim 124, wherein said essentially pure population of clusters is formed from molecules from at least two different liquids which are not soluble in each other.

135. (New) The chemical species of Claim 134, wherein the two liquids which are not soluble in each other are water and oil.